

ABSTRACT

The present invention relates to a multilayer structure based on polyamides and graft copolymers having polyamide blocks, comprising, in this order:

a) a first layer (1) formed from a polyamide (A) or else a polyamide (A)/polyolefin (B) blend having a polyamide matrix;

b) optionally, a tie layer (2a);

c) a layer (2) based on a graft copolymer having polyamide blocks, formed from a polyolefin backbone and from at least one polyamide graft in which:

- the grafts are attached to the backbone by the residues of an unsaturated monomer (X) having a functional group capable of reacting with a polyamide having an amine end group;
- the residues of the unsaturated monomer (X) are attached to the backbone by grafting or copolymerization via its double bond;
- the layers (1), (2a) and (2) being successive and adhering to one another in their respective contact region.

According to one embodiment, the structure comprises a polyamide or polyolefin layer (3), this layer being placed beside the layer (2), and an optional tie layer (3a) being placed between the layer (2) and the layer (3).

These structures are useful for making tanks, containers, bottles, multilayer films and tubes.

One particularly useful application relates to tubes for cooling circuits of internal combustion engines, such as the engines of cars or lorries.

According to another embodiment, the invention also relates to multilayer articles such as tanks, containers, bottles, films and tubes formed from the material of the above layer (2).